

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number  
WO 2004/006184 A2

(51) International Patent Classification<sup>7</sup>: G06T 7/00

(21) International Application Number:  
PCT/IL2003/000555

(22) International Filing Date: 3 July 2003 (03.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/394,205 5 July 2002 (05.07.2002) US

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicants and

(72) Inventors: TALMON, Gad [IL/IL]; 9/18 Yigal Alon  
Street, 55030 Kiryat Ono (IL). ASHANI, Zvi [IL/IL]; 16  
HaCarmel Street, 55900 Ganei Tikva (IL).

Published:

— without international search report and to be republished  
upon receipt of that report

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.



WO 2004/006184 A2

(54) Title: A METHOD AND SYSTEM FOR EFFECTIVELY PERFORMING EVENT DETECTION IN A LARGE NUMBER OF CONCURRENT IMAGE SEQUENCES

(57) Abstract: Method and system for performing event detection and object tracking in image streams by installing in field, a set of image acquisition devices, where each device includes a local programmable processor for converting the acquired image stream that consist of one or more images, to a digital format, and a local encoder for generating features from the image stream. These features are parameters that are related to attributes of objects in the image stream. The encoder also transmits a feature stream, whenever the motion features exceed a corresponding threshold. Each image acquisition device is connected to a data network through a corresponding data communication channel. An image processing server that determines the threshold and processes the feature stream is also connected to the data network. Whenever the server receives features from a local encoder through its corresponding data communication channel and the data network, the server provides indications regarding events in the image streams by processing the feature stream and transmitting these indications to an operator.